



European flagship Action for cold ironING in ports

Project overview

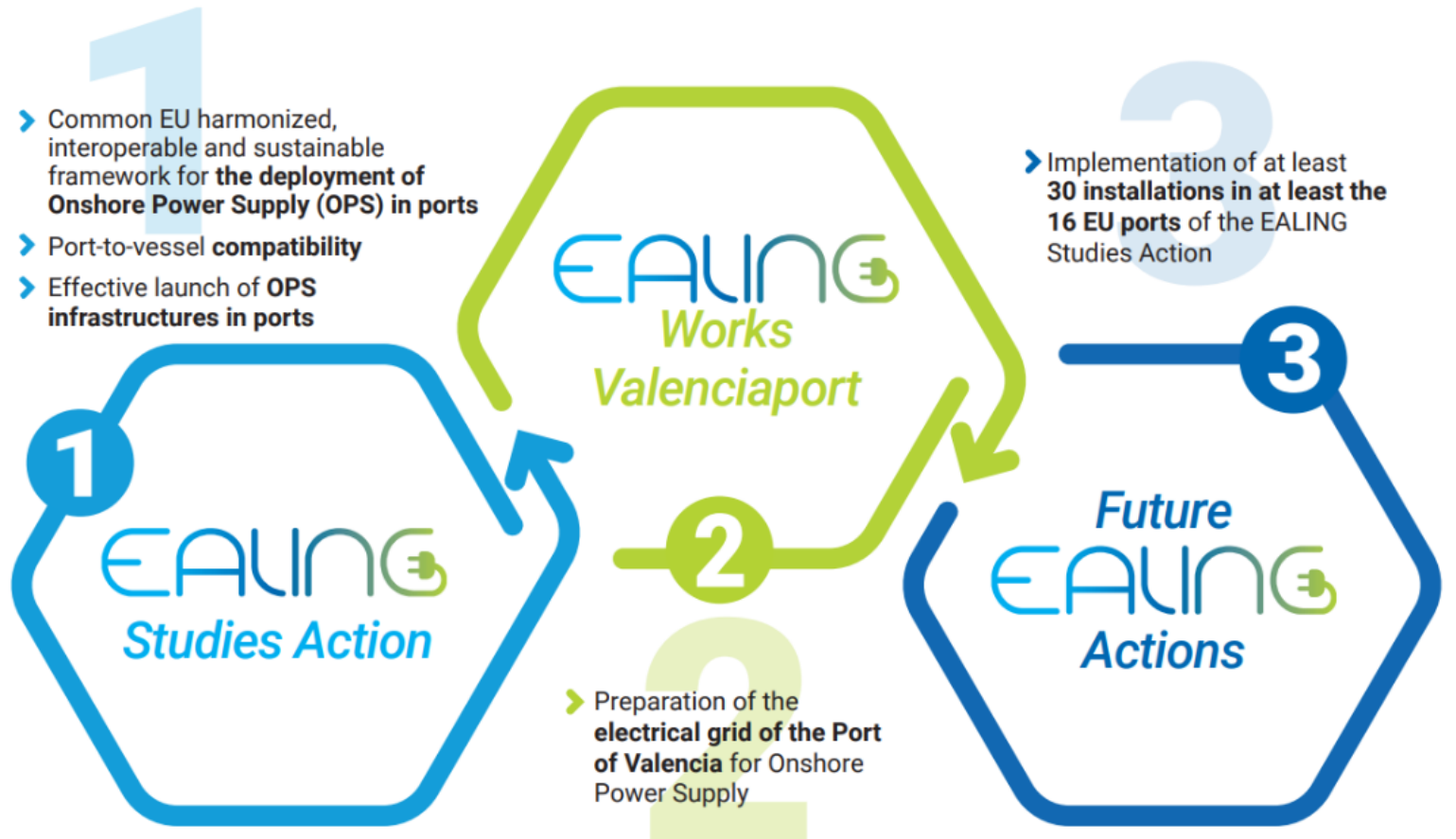
EALING Final Event

Rocío García – Fundación Valenciaport

Valencia, 29 November 2023

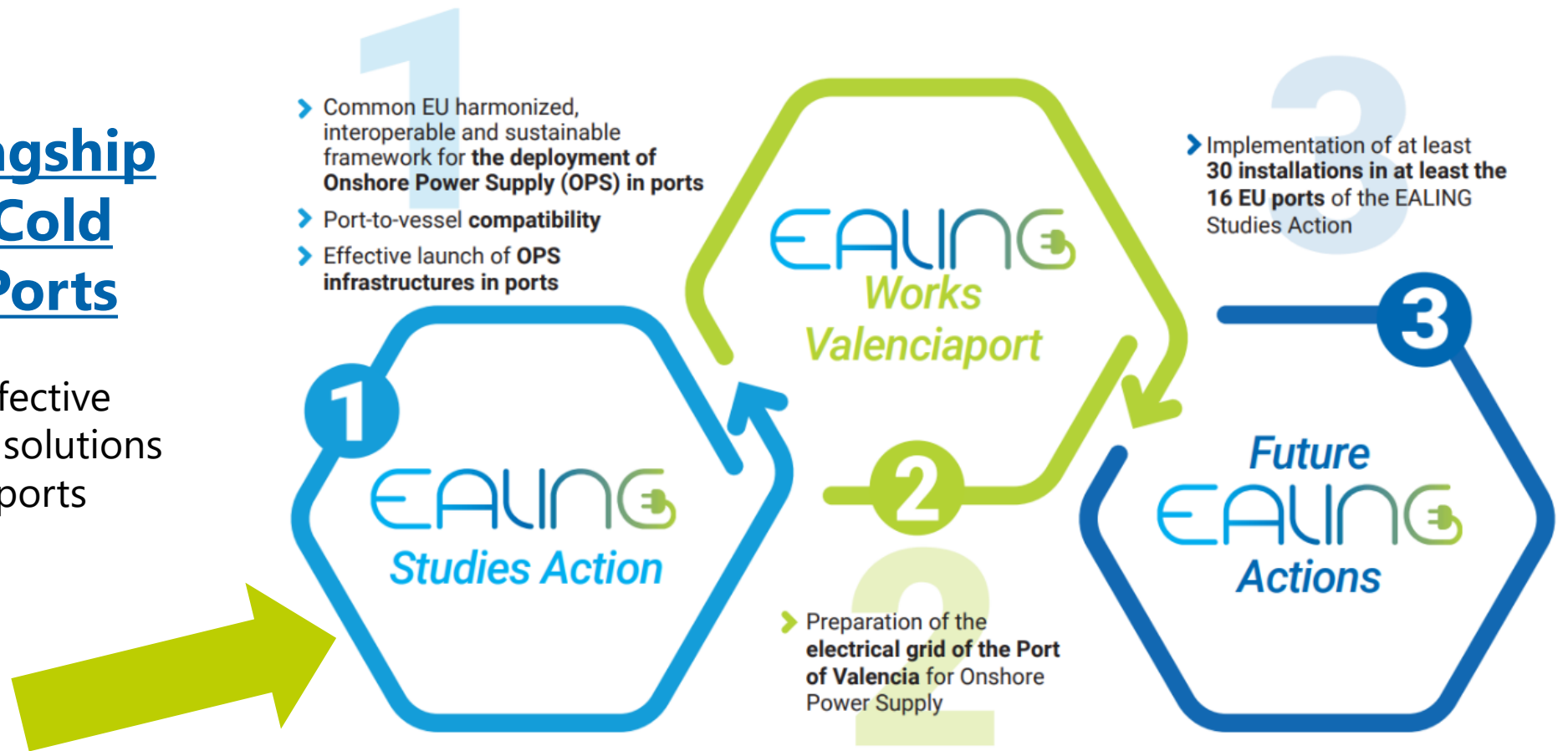
European Flagship Action for Cold Ironing in Ports

Accelerate the effective deployment of OPS solutions in EU maritime ports



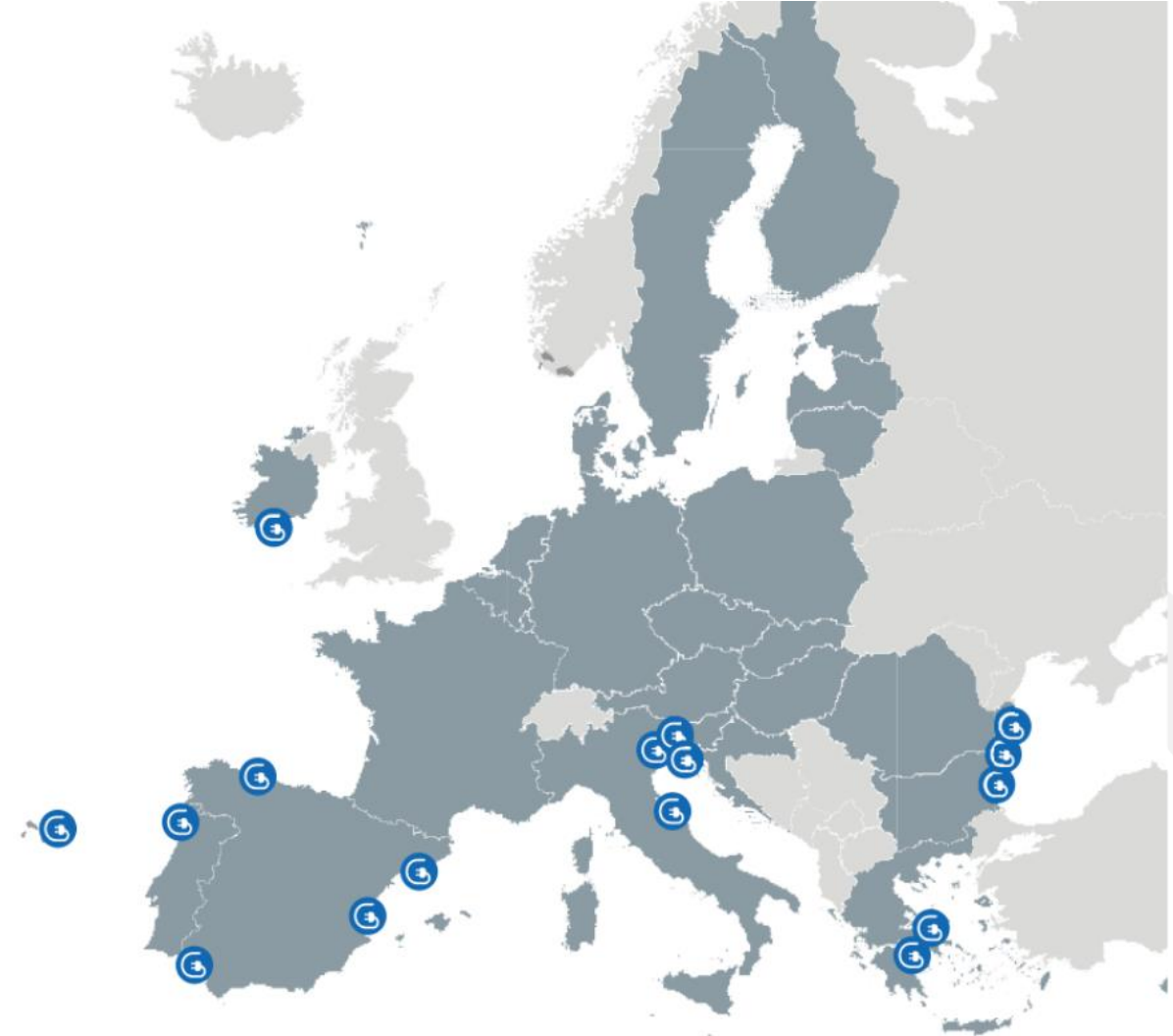
European Flagship Action for Cold Ironing in Ports

Accelerate the effective deployment of OPS solutions in EU maritime ports



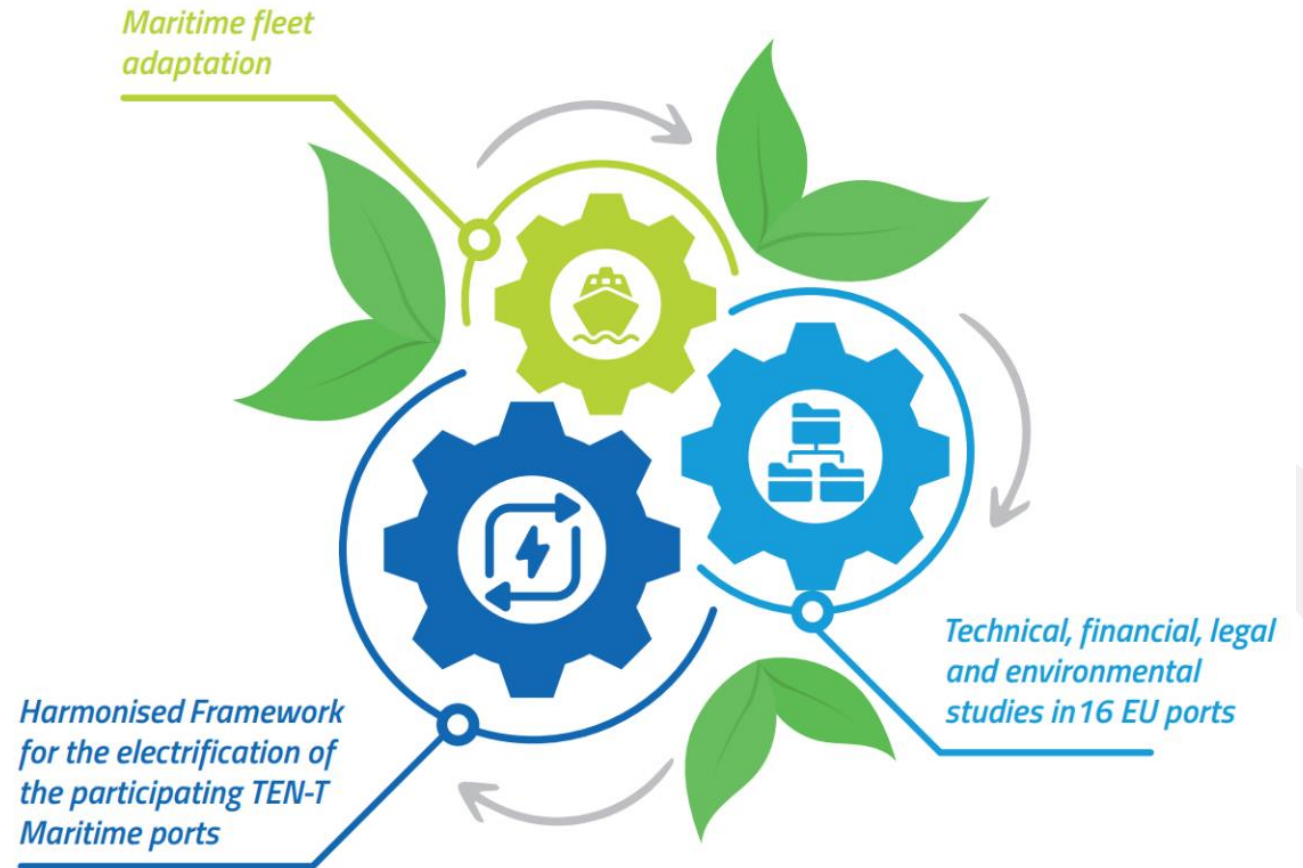
PARTNERS & LOCATION

- **13 Port Authorities** (Valencia, Barcelona, Huelva, Gijón, Venice&Chioggia, Trieste&Monfalcone, Ancona, Piraeus, Rafina, Koper, Constanta, Leixoes, Açores)
- **2 Port & Maritime Public Institutions** (Bulgarian Ports Infrastructure Company (→ ports of Burgas, Varna); Marine Institute (→ port of Cork))
- **7 Port & Shipping related entities** (Fundación Valenciaport, Circle, Ocean Finance, Symbios Funding & Consulting, Protasis, Hydrus Engineering, Fincantieri SI)

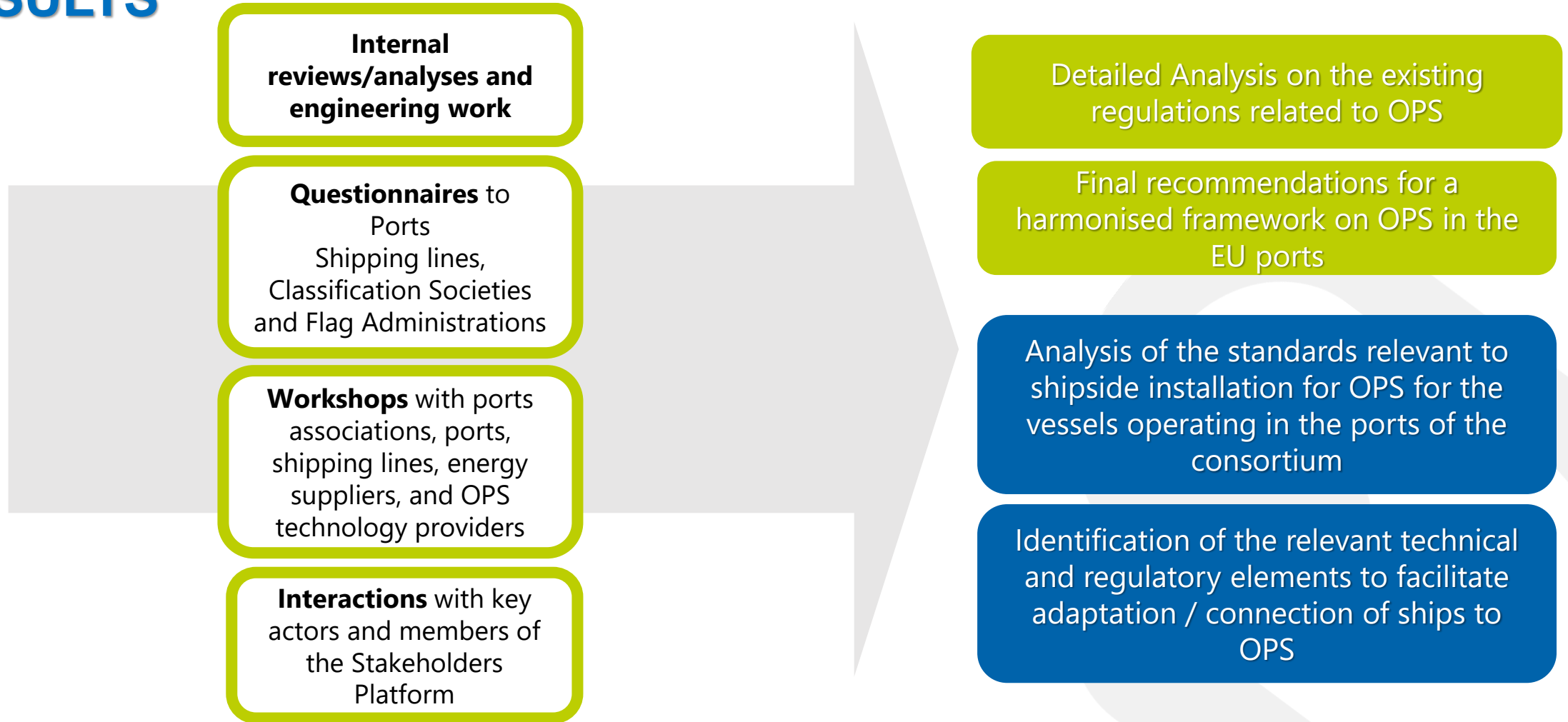


OBJECTIVES

- Bringing forward a **common harmonised and interoperable framework** to facilitate the implementation phase of OPS infrastructures in the ports of the consortium
- Facilitating the **port to vessel compatibility in the TEN-T Maritime Network**, for vessels calling at the ports of the consortium
- Leading all the **technical, financial, legal and environmental studies** necessary to launch the works for OPS equipment and infrastructure after the end of the Action



RESULTS



RESULTS

Technical studies for the electrification infrastructure of the participating TEN-T maritime ports

- Front-end engineering design studies
- Additional technical studies necessary for the projected works

Environmental studies, the content and scope of which have depended on the final needs of each port.

- **authorisations from the competent authorities** for the construction of the future SSE facilities.



Clean Power Supply Plans at port level to ensure the integration of SSE as key part of the environmental strategy in each of the EALING ports

Tender documentation for the construction works of the future SSE installations



Cost-Benefit Analyses to evaluate the future SSE installations in terms of financial and socio-economic performance.

Review and analysis of the available **financial and blending schemes** to finance the infrastructures



RESULTS

https://ealingproject.eu/dissemination/

Find out more about EALING Studies, download project materials

Documents

- [Deliverable D1.1.- Report on the detailed analysis on the existing national/port regulations directly or indirectly related to shore side electricity supply](#)
- [Deliverable D1.2.- Report on final recommendations for a harmonised framework on OPS in EU ports](#)
- [Executive Summary on Ports Questionnaire](#)
- [Executive Summary on Shipping Questionnaire](#)
- [Deliverable D2.1.- Report on the analysis of the standards relevant to shipside installation for shore side electricity supply](#)
- [Deliverable D2.2 – Report on the identification of the relevant technical and regulatory elements to facilitate adaptation and connectivity of ships to Shore Side Electricity \(SSE\)](#)

RESULTS

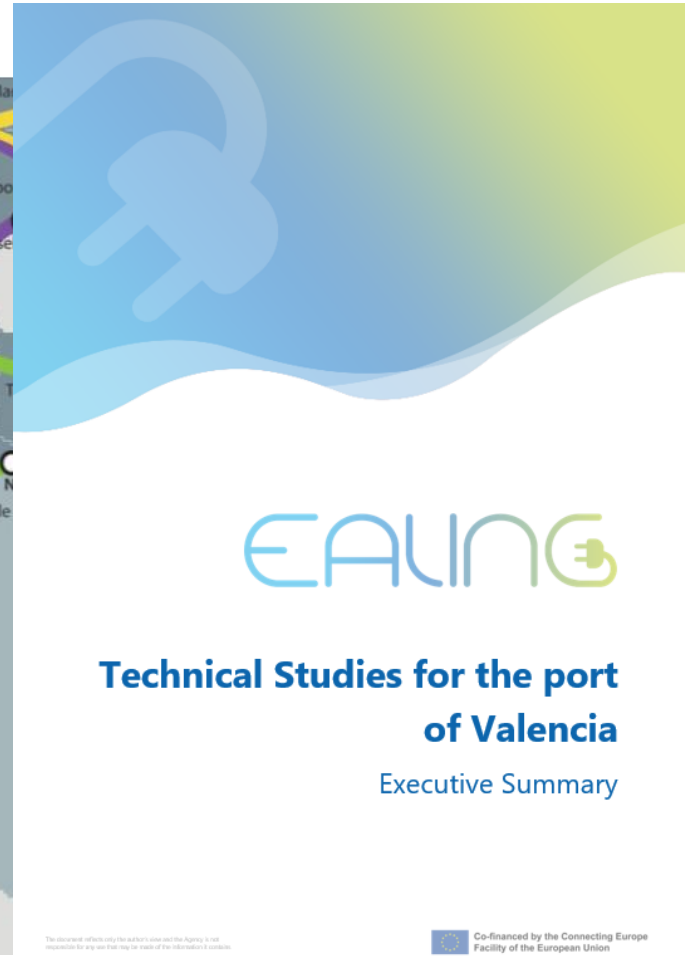
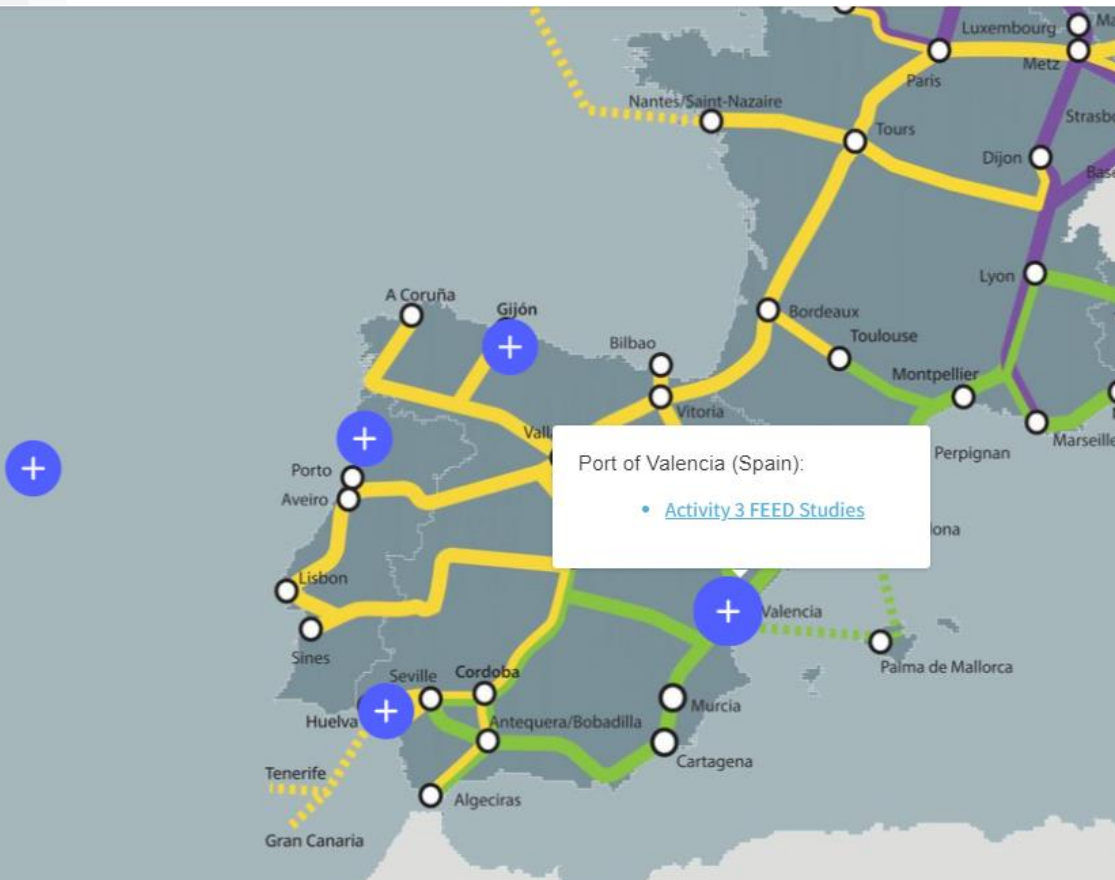


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<https://ealingproject.eu/ports-2/>

RESULTS

Available soon!



EALING
Executive Summary

Co-financed by the Connecting Europe Facility of the European Union

EALING
European flagship Action for coLD IronING in ports

Port of Valencia

The Port of Valencia is the fourth most important port in Europe in terms of container traffic, handling the movement of five million TEUs in 2022. To this must be added the importance of ro-ro traffic, an aspect in which more than 420,000 ITU were handled in 2022. In recent years, the Port of Valencia has consolidated its status as a mixed hub, maintaining the balance between import and export traffic at the service of foreign trade and maritime transit, providing connectivity for companies. It is not in vain that the Port of Valencia is the port with the best connectivity in Spain according to the UNCTAD Maritime Connectivity Index (LSM), channelling 40% of Spanish import and export containers. Likewise, the Port of Valencia is a benchmark for passenger connectivity with the Balearic Islands and at the service of tourism via cruise traffic.

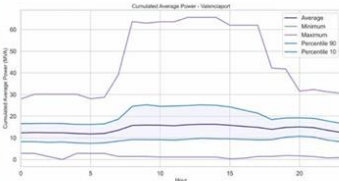
The Port of Valencia is particularly committed to the 2030 Agenda and has long been a leader in the promotion of sustainable projects to reduce the environmental footprint and achieve a net-zero emissions port in 2030.

Top 10 Sustainable ports in Europe (Index in 2022) - Ports of Valencia

Description of the SSE technical studies

FEED studies have been carried out for three installations, one at a container terminal, one at a passenger and ferry terminal and the last one at a future passenger and ferry terminal. These systems will be the first ESS systems deployed in the port.

Location	Total power	Vessel type	Characteristics
Transversal de Costa Quay	10 MVA	Container vessels	High Voltage Shore Connection (6.6 kV), 7.5 MVA available in case of a single connection. Possibility of two simultaneous supply points with up to 5 MVA each. 50 or 60 Hz available.
Poniente Quay	16 MVA	Cruise ships up to 18 MVA and ferries up to 4 MVA	High Voltage Shore Connection (6.6 or 11 kV), 1 DPS supply for cruise ships and 1 DPS supply for ferries. Only one supply for a ferry or one supply for a cruise ship, not the two of them at the same time. 50 or 60 Hz available.
Perfecto Palaco Quay	20 MVA	Cruise ships up to 20 MVA and ferries up to 4 MVA	High Voltage Shore Connection (6.6 or 11 kV), 1 DPS supply for cruise ships and 1 DPS supply for ferries. Only one supply for a ferry or one supply for a cruise ship, not the two of them at the same time. 50 or 60 Hz available.



In addition to the FEED studies, an analysis of the estimated SSE demand for the entire port has been carried out. The result is that, if 100% coverage of calls is to be achieved, the port of Valencia will have to be prepared to supply an average of around 20-70 MVA throughout the day in shore power, which could rise to more than 90 MVA in the highly unlikely event that all ships at berth would demand peak power at the same time. The main factor in this huge variation is the number of cruise ships calling at the port on a daily basis.

Environmental studies

In line with the InvestEU Regulation, the Port Authority of Valencia outsourced a sustainability proofing, which included the climate, environmental and social dimensions.

The conclusions of the environmental and climate studies have been:

- The projects comply with the regulations, are not subject to the procedure of an Environmental Impact Assessment, nor do they represent a significant impact on the Natura 2000 Network, nor are they located in any Site of Community Interest (SCI) in the Valencian Community and do not have a negative impact on the framework directives on the atmosphere or the international environmental conventions listed in Annex X of Directive 2014/24/EU of the European Parliament and of the Council. They are also subject to compliance with the Environmental Impact Statement of the Port of Valencia of 30 July 2007.
- In the construction phase, the negative impacts identified are mainly due to emissions and any impact that may occur on the quality of water and soil due to spills, spillages, or faults in the execution of the trenches for the channeling of the power line. These risks are manageable, and it is the responsibility of the Port Authority of Valencia to carry out appropriate monitoring and controls to help keep the level of risk low.
- Similarly, in the operating phase, the negative impacts are scarce, and none are significant.
- Based on the calculation of the carbon footprint, it is concluded that the implementation of the SSE installations would have a positive impact as GHG emissions would be significantly reduced.
- In relation to the impact of climate change on the infrastructure, the installation areas will be impacted by the phenomenon of heat waves and sea flooding, the latter of which may affect the operation of the substations with a decrease in the power supplied. Nevertheless, measures have been taken in this respect in the choice of components to ensure the correct operation of the installations in compliance with the common monitoring and surveillance requirements.

+ 35M TOTAL INVESTMENTS

+ 890,000 tons CO₂ EMISSION SAVED

Clean Power Supply Plan

With the mission to be a net-zero emission port by 2030, the Port Authority and Fundación Valenciaport have worked since 2021 in the development of the 'Net-Zero Emissions Plan 2030', which defines the actions to be carried out in the short, medium and long term to drive the adoption of more sustainable options by the different sub-sectors (i.e. port authority, terminals, ships, nautical services, other services) in the port of Valencia, so as to make significant progress towards the net-zero emissions target in 2030 and minimise the necessary investment in offsetting projects.

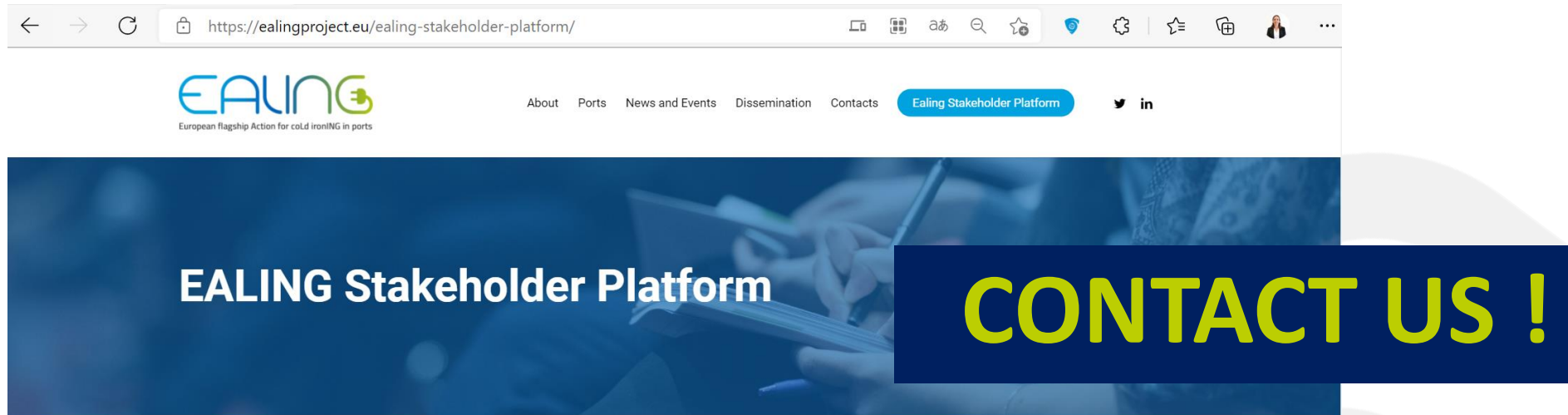


Cost-Benefit Analysis and Blending Schemes

Main results	Transversal de Costa Quay	Poniente Quay	Perfecto Palaco Quay
Total investments (€)	10,164,650	12,318,187	12,528,024
Tenure (years)	2023-2047	2023-2047	2023-2047
Nº of calls requesting SSE for the full period studied	12,293	12,084	16,741
Financial Net Present Value (FNPV) (€)	(-20,559,551)	(-13,272,780)	(-13,455,292)
Total CO2 emissions saved (tonnes)	662,249	75,918	156,113
Total NOx emissions saved (tonnes)	10,635	1,266	2,536
Total SOx emissions saved (tonnes)	296	40	73
Total PM emissions saved (tonnes)	665	52	111
Total noise emissions saved (€)	84,642	308,715	465,858

It is planned that the future installations in the port of Valencia will be financed mainly through NextGenerationEU, Connecting Europe Facility and own resources.

STAY UPDATED!



EALING Action is implemented in close cooperation with all the relevant stakeholders of the EU maritime sector: join the EALING Stakeholder Platform and become active part of the change.

Stay updated with all the latest news and events about the project and be involved directly in the Studies!

[Ealing Stakeholder Platform – Ealing Project](https://ealingproject.eu/ealing-stakeholder-platform/)

THANK YOU!

Consortium



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Thanks!



European flagship Action for coLd ironING in ports

Rocío García Molina

rgarcia@fundacion.valenciaport.com

Discover more at

www.ealingproject.eu



**Co-financed by the Connecting Europe
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